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FDOT HOSTS THE NATION'S NEWEST CONNECTED VEHICLE TEST BED

ORLANDO, Fla. — Orlando is getting a glimpse of the future of transportation with the installation of the newest Connected Vehicle Test Bed along parts of Interstate 4, International Drive and John Young Parkway. The test bed is debuting at the 18th annual Intelligent Transportation System (ITS) World Congress Oct. 16 – 20. The test bed's 25 miles of existing roadway feature 29, two-way radio devices which communicate with a fleet of specially equipped vehicles. It is an early test of technology that can lead to safer vehicles and crash-free roadways.

The test bed is part of the Florida Department of Transportation's (FDOT) Intelligent Transportation Systems (ITS) program which deploys technology on roadways to improve traffic flow and safety. The test bed's goal is to find the best way to consistently and rapidly communicate information between the roadway and the vehicles.

"For this technology to work, we need to know we can have reliable real-time communication with the vehicles on the road," said Rick Morrow, FDOT District Five Traffic Operations Engineer. "There are a lot of things that can cause interference with our radio communication, and we need to know that urgent information can be sent at a rate much faster than cell phones to help vehicle systems keep travelers safe."

The 29 radio devices, called roadside equipment units (RSE), are connected to FDOT's existing fiber optic network. They send safety messages to the specially equipped vehicles via short-range radio while collecting information from the vehicles about location and speed. The RSEs relay messages to and from FDOT's Regional Traffic Management Center (RTMC) in Orlando via the fiber optics.

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The vehicles are equipped with their own two-way radio, a specialized GPS device called a Vehicle Awareness Device and a laptop computer that displays system information and safety messages sent from the RTMC.

“Our probe cars are transmitting information only about their speed and location,” said Morrow.

“Someday soon, cars will be able to transmit the status of their windshield wipers or headlights, which will tell us about weather and visibility conditions; or an airbag deployment, which tells us the car has been involved in a crash. More importantly, vehicles will be able to communicate silently with other vehicles around them to significantly reduce crashes.”

Newer cars already monitor many systems through their onboard microprocessor. Eventually, new cars will come equipped with a built-in OBE to enable data sharing, and aftermarket OBEs will be connected to older cars through the car’s data port. Together, these devices open the doors to new developments in safety technology for our vehicles.

Newer cars’ built-in display screens will show the traveler advisory messages sent from the RTMC. The messages will be similar to the traffic alerts already posted on overhead message signs and broadcast through FDOT’s 511 Traveler Information System.

The Orlando RTMC currently collects traffic speed and volume information through its network of more than 400 devices and 240 closed-circuit traffic surveillance cameras along 33 roadways, and its communication with Road Rangers and the Florida Highway Patrol. The RTMC is the hub of that network where traffic conditions are monitored 24/7.

Speed and roadway condition data from equipped vehicles will someday augment this network, which will in turn automatically generate and broadcast traveler advisory messages back to vehicles.

For more information, please visit

http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Deploy/CV/Connected_Vehicles-WC.shtm

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